

SPORES. FERNS. MICROSCOPIC ILLUSIONS ANALYZED. VOLUME I, VARIED GROUPS INTRODUCE TRUE FERNS THROUGH SPORE TETRAD STRUCTURE, by Clara S. Hires. Mistaire Laboratories, Millburn, N. J. 1965. xxiv + 548 pp. 246 plates. \$22.50—This book was written for people of diverse interests—such as the artist or designer, the model maker, the practical grower, to name a few—as well as for scientists in the fields of geology, archaeology, oceanography, mathematics and numerous branches of biology. “The purpose of this book is to share with others the results of many years of research, accurately examining and recording fern spores, as well as organizing known facts about actual structure, to facilitate future research.” Because Miss Hires prepared and wrote her treatise to be used by so many disciplines, some ultra-scientific individuals may feel that her presentation is too simple. In the opinion of these reviewers, however, Miss Hires has done an admirable job in presenting such a difficult subject to such a wide audience.

Since the author feels that the appearance of microscopic tetrads and spores has often been misinterpreted, she has developed basic patterns illustrated by diagrams and models so that microscopic tetrads and spores can be compared and their analysis simplified for a clearer concept of microscopic phenomena.

The plates listed above are made up of about 350 photomicrographs, including 14 in color, and 100 photographs. In addition, there are 700 drawings. Legends for the photomicrographs give detailed interpretations of the structures at different levels of focus so that the viewer may not only understand the illustrations in the book but may form a clear concept of his own slides as viewed under his own microscope.

The organization of the book is out of the ordinary. One does not find an introduction, chapters (by name), glossary, bibliography, etc., as such, but there is an historical summary of studies on spores and pollen, and the body of the book has beautiful illustrations of ferns and spores and selected pollen of higher plants, followed by a section on techniques, a long list of references, and a list of word meanings.

The book is rather extravagantly printed on heavy permanent paper, with an attractive, strong, buckram binding. The type is large and easy to read, and an impression of spaciousness is conveyed by the lack of overcrowding on the pages. The entire format of the production invites a leisurely perusal of its pages. The work will be an embellishment to any library, and a ready source of reference to anyone who is at all interested in the complexities of fern spores.—HELEN B. CORRELL AND D. S. CORRELL, *Texas Research Foundation, Renner, Texas 75079*.

TWO NEW FAMILIES OF FERNS, AND REMARKS ON THE CERATOPTERIDALES.—In recent papers R. E. G. Pichi-Sermolli has published two new families of ferns: Cryptogrammaceae and Actiniopteridaceae. Both families, as stated by Pichi-Sermolli, belong to the order Pteridales, and are described in connection with the Flora of Ethiopia. As these publications cause some changes in the systematics of higher taxa, their contents may be summarized:

CRYPTOGRAMMACEAE Pic.-Serm., *Webbia* 17: 299. 1963. Type genus *Cryptogramma* R. Br. in Richardson.

The family is divided into two tribes—Cryptogrammeae (with *Cryptogramma* R. Br. in Richards., and *Llavea* Lag.) and Onychieae (Ching) Pic.-Serm. (With *Onychium* Kaulf.). According to Pichi-Sermolli, the new family is allied to the Pteridaceae and the Actiniopteridaceae, but I believe that there also exists a strong relationship to the Sinopteridaceae.

ACTINIOPTERIDACEAE Pic.-Serm., *Webbia* 17: 5. 1963. Type (and sole) genus *Actiniopteris* Link.

The family consists of the sole genus *Actiniopteris*, with five species, with an Afro-Asiatic distribution. Pichi-Sermolli places this family in the order Pteridales, which is now composed of the families Negripteridaceae, Pteridaceae, Adiantaceae, Sinopteridaceae, Cryptogrammaceae, Actiniopteridaceae, Vittariaceae, and Gymnogrammaceae.

The Parkeriaceae (= Ceratopteridaceae), once¹ considered in

¹ Filicopsida, *Enciclop. Agr. Ital.* 649-662. 1960.